an earlier sputum sample. A serum sample collected in 1992 was tested for *B. pseudomallei* antibodies and was highly positive.

This CF patient seems to be having a *B. pseudomallei* pulmonary infection for at least 8 years. He has been treated with meropenem/clarithromycin (3 weeks) and is now on high-dose ampicillin/sulbactam p.o. (planned for 20 weeks).

MoP119 Urinary pathogens – A hospital view

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Objectives: To find out the frequency and antimicrobial susceptibility of urinary pathogens in a hospital environment.
Methods: All urine isolates from urine cultures were collected from all of the departments of General Hospital in the period from January to December 1998. Urine cultures were done in Regional Institut of Public Health according to standard techniques. Antimicrobial susceptibility tests were performed using the disk diffusion method and interpreted according to NCCL standards.

Resusts: 2563 isolates from urine cultures were analysed. There were 64.5% gram-negative pathogens among them and 35.5% were gram-positive pathogens. The predominant species was Escherichia coli, represented 39.1% of the isolates. The isolates that followed were Enterococcus spp (20.8%), Klebsiella spp (11.2%), Coagulase negative staphilococci (7.3%) and Pseudomonas spp (5.7%). These 5 pathogens accounted 84.1% of the isolates.

The highest rate of susceptibility among all gram-negative pathogens was that of gentamicin (73.6%) and ciprofiloxacin (72.8%), the susceptibility rate of co-trimoxazole was 60.5% and amoxicillin-clavulanate was 57%. Escherichia coli alone were susceptible to gentamicin in 98.2%, to ciprofloxacin in 93.5%, to amoxicillin-clavulanate in 82.1% and to co-trimoxazote in 81.9%. The susceptibility of Enterococcus spp to amoxicyllin was 80.8% and to ciprofloxacin was 72.3%. The susceptibility of Coagulasa negative staphilococcci to all antimicrobials was lower than 70%. All the tested gram-positive pathogens were susceptible to vancomicin.
Conclusions: The most common pathogen among isolates from urine cultures in General Hospital Maribor was Escherichia coli, but almost the equaly represented were the gram-positive pathogens. There was no single antimicrobial agent with acceptable rates of activity against all the isolates.

P:4/2 – Gram-negative infections - II

MoP120 Genomic features of *Helicobacter pylori* in a group of non-eradicated patients

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Objective: To find out if noneradicated strains from patients (pts) had any unique genomic property and if these might be applied to facilitate rapid identification of strains before emergence of resistance.
Methods: *H. pylori* was isolated from gastric biopsies of 9 pts before and after therapy for *H. pylori* infection. Regimen given was: omeprazole 20 mg b.d. for 10 days + azithromycin 500 mg o.d. for 3 days + metronidazole 500 mg b.d. for 7 days. MICs for metronidazole and azithromycin were determined by agar dilution according to NCCLS M7-A4 and M100-S. Genotyping based on *cagA*, *vacA* (signal, s and mid, m region types) and RAPD (random amplified polymorphic DNA analysis) were performed by PCR based analysis.
Results: 18 *H. pylori* isolates were obtained from 9 pts before and after therapy. In 4 pts isolates remained sensitive before and after therapy; in 3 pts strains became resistant to metronidazole, in 1 pt isolate after therapy became resistant to azithromycin and metronidazole and in 1 pt isolated strain after therapy became sensitive to metronidazole. None of the strains changed *cagA* and *vacA* status after therapy. 14 strains from 7 pts were *cagA* + before and after therapy. *VacA* s1m1 had 8 isolates/4 pts and *vacA* s1m2 had 10 isolates/5 pts. After antibiotic treatment isolates from 6 pts had identical RAPD pattern as they had before treatment. In 3 pts isolates had different RAPD pattern before and after therapy: in 1 pt pattern differed in 1 lane, in second in 2 lanes and in third pt in 3 lanes. That *H. pylori* isolate had the same sensitivity pattern before and after therapy.
Conclusion: Different RAPD patterns before and after therapy could be explained by presence of different *H. pylori* subpopulations whose relative frequencies may change with therapy or with the possibility of reinfection.

MoP121 Pneumococcal bacteremia in hospitalized Israeli adults

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Objectives: To estimate the frequency, source, outcome and susceptibility to antimicrobial agents of *pneumococcal* bacteremia (PB) in hospitalized adults in Israeli hospitals, and to compare the results to a previous survey conducted between 4/93–3/95.
Methods: Between 4/95–12/97, 23 out of the 24 medical centers in Israel participated in this survey. Demographic, clinical characteristics, and outcome of all in-patient adults with PB were recorded. In addition, we summarized the susceptibility of the isolates to penicillin and other antibiotics. Serogroups of most of the isolates were also identified.
Results: 1117 episodes of PB with 9.7% of all the cases being in the 16–34 yr age group and 61.2% in patients aged ≥65 yrs. Pneumonia was the mean source of bacteremia (72.5%). The overall mortality rate was 24.9%, however, in elderly patients the mortality rate was 60%. MIC to penicillin was tested in 830 isolates; 69% were susceptible (MIC < 0.1 μg/ml), 28.4% partially resistent (MIC of 0.1–1 μg/ml), and 2.6% highly resistent (MIC > 1 μg/ml). Susceptibility to other antibiotics was checked by the disk diffusion method and 98.4% were susceptible to ceftriaxone, 96.4% to cefuroxime and all the isolates were susceptible to vancomycin and as previously observed the serogroup 23 was penicillin resistant.
Conclusions: The most important difference between both surveys was the alarming increase of resistance of the *pneumococci;* in the 4/93–5/95 survey 88.8%, and in the 4/95–12/97 only 69% ($p = 0.0001$) were susceptible.

MoP122 *Alcaligenes xylosoxidans* complicated parapneumonic eusion

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Objectives: The presentation of an unusual case of community acquired pneumonia complicaded by *A. xylosoxidans.* pleural effusion.
Methods: Specimens of pleural fluid were examined for leukocytes and protein and were cultured on appropriate media for aerobic and anaerobic microorganisms. The identification of isolated bacterium was performed by standard methods and API 32GN system (bioMerieux). The susceptibility testing was carried out by disk diffusion method.

Case report: A female patient aged 45 years was admitted to the hospital because of dyspnoea, cough from 48 h, haemoptysis, sudden pain in the right rib and temperature of 38.5°C. The patient was bedridden for 35 days because of tibia-fibula fracture. On day of admission X-ray examination revealed turbidity in the right pulmonary base with accompany pleural effusion. The WBCs count of pleural fluid specimens was 36,000/μl (88% neutrophils) and proteins 5.8 gr/dl. The ESR was 69 mm/h. *A. xylosoxidans* was isolated from the cultures. The strain was multiresistant, but susceptible to amoxicillin/clavulanate, trimethoprim/sulfamethoxazole, ceftazidime, ciprofloxacin, piperacillin and imipenem. The patient was treated by pleural effusion drainage and ceftazidime with amikacin for 15 days and ciprofloxacin for further 15 days.
Conclusions: *A. xylosoxidans* is an unusual causative agent of pneumonia and parapneumonic complicated pleural effusion. The treatment is difficult because of its multiresistance and the need of drainage of the pleural effusion.

MoP123 A two-year follow-up study of antibody response to human Campylobacter infections

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Objectives: To develop an ELISA immunoassay to measure immunoglobulin G (IgG), IgM and IgA classes of human serum antibodies to C. jejuni and C. coli.
Methods: A combination of C. jejuni heat-stable antigen (Penner) O:1.44 and O:53, was used as a coating antigen in the ELISA test. A total of 589 sera from 210 patients with culture verified Campylobacter enteritis were examined at various intervals after infection.
Results: By using the 90 percentile of the negative sera as cut-off and thus obtaining a specificity of at least 90%, IgG, IgM and IgA showed a sensitivity of 71%, 60% and 80%, respectively, within 35 days after in-fection, and by combining all three antibody classes, the sensitivity was 92%. At follow-up of the patients, the IgG antibodies were elevated 4.5 months after infection but exhibited a large degree of variation in anti-body decay profiles. IgA and IgM antibodies were elevated until 2.5 and 2 months, respectively, following infection. The antibody response did not depend on Campylobacter species nor C. jejuni serotype, with the important exception of response to C. jejuni O:19, the serotype most fre-quently associated with Guillain-Barré syndrome. All the patients in-fected with this serotype had higher levels of both IgM ($P = 0.005$) and IgA ($p = 0.04$) compared with other C. jejuni and C. coli serotypes.
Conclusions: Measurments of Campylobacter antibodies by the developed ELISA may be of diagnostic value and has potential of application in seroepidemiological studies.

MoP124 The role of Helicobacter pylori in clinical and microbiological investigations

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Objectives: we studied H. pylori isolated from stomach (antral part). H. pylori is a Gram negative microaerophilic, motile, spiral-shaped bacterium that is involved in the pathogenesis of peptic ulcer disease, and associated with gastric carcinoma.
Methods: The patients underwent endoscopy (Olympus, Japan) and biopsy of antrum. The biopsy specimen were subjected to microbiological evalution in following stages: an urease test, bacteriology (Gram stain) culture under microaerophilic conditions.
Results: One hundred patients (male and female) wre studied. The patient mean age was 37 years (range 19 to 70). Eighty two patients were confirmed to be H. pylori positive based on positive results by urease test. Fifteen patients had gastroduodenal ulcers, five had eosophagitis, forthy six had gastritis or duodenitis and one had gastric carcinoma.

We also have investigated some restriction-modification systems.
Conclusions: There are strong positive correlations bteween gastric and duodenic ulcers rate and H. pylori infection rate in our studies. H. pylori has well developed restriction and modification systems to degradate foreign DNA.

Preliminary results show that the isolated H. pylori strains have different restriction-modification systems with a perspective to use them as producers of restriction endonucleases for molecular biology purpose.

MoP125 Bactericidal activity of human serum against *E. coli* isolated from blood

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Objectives: Purpose of this work was determination of all factors required to killing *E. coli* rods sensitive to the normal human serum (NHS).
Methods: The NHS susceptible rods were treated by different serum preparations: NHS with blocked one of the pathway of complement activation, with lysozyme removed or with blocked one of the pathway activation and without lysozyme.
Results: The most frequently isolated *Enterobacteriaceae* rods from blood patients was *E. coli* (37%). Normal human serum was strongly bactericidal for 20% of studied strains. Against 22 studied *E. coli* strains six different variants of the bactericidal action of complement and lysozyme was found. Seven strains were sensitive to the action of serum in which complement was activated via the classical pathway without lysozyme or via the alternative pathway with lysozyme as well as by both bactericidal pathways without participation of lysozyme. Three strains were sensitive to the complement activated via classical pathway with participation of lysozyme. Four strains were killed by the complement activated via the alternative pathway with presence of lysozyme. Another four strains of *E. coli* were sensitive on the complement activated by classical or alternative pathways with presence of lysozyme. Three strains were sensitive only to the complete NHS. One strain was killed by the complement activated by the classical pathway without lysozyme or by the alternative pathway in presence of lysozyme.
Conclusions: Diversity of the mechanism of bactericidal activity of serum is due to the different antigenic structure of studied bacteria.

MoP126 Biological and genetic properties of E. coli 0157 firstly isolated in North-Western region of Russia

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Objectives: Study of phenotypic and genotypic properties strains of E. coli O157 firstly isolated from patients in North-West of Russia.
Methods: Bacteriological, serological methods, sensitivity to antibiotics (20 agents), PCR systems for detection of stx1, stx2, fliC and Eae genes.
Results: Purposeful examination for E. coli 0157:H7 in Russia was started in 1995. For the first time E. coli 0157 strains were isolated from children in 1999 in 2 different cities of North-West of Russia. The isolates of E. coli belonged to the serotype 0157:H- (non motile), but were sorbitol negative and highly sensitive to antibiotics, as typical strains of E. coli 0157:H7. All strains were shown to harbour stx1 and stx2, and Eae genes. Although the isolated strains were non motile they harboured fliC H7 genes as typical strain. Strains gave cytotoxic effect on Vero-cells. All patients had enterocolitis and only one of them developed hemocolitis, they recovered without complications.
Conclusions: In Russia, in North-Western region more then 50% of acute enteric infection are diagnosed as of unknown etyology. Search for E. coli 0157:H7 and other EHEC is very important for improvement of laboratory diagnosis.

MoP127 Antibiotic resistance in community urinary tract infection

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Objectives: To investigate factors associated with resistance in community coliform urinary tract infection (UTI).
Methods: Statistical analysis of retrospective survey data on 38,000 isolates from community UTIs and 300 surgeries in Wales.
Results: Prescribing, resistance and social deprivation levels varied widely between surgeries. Resistance levels for an antibiotic were associated with prescribing of that antibiotic for individual surgeries. Cross-associations between antibiotics were seen, as were associations with multiresistance, particularly for trimethoprim. Resistance levels were associated with social deprivation, increasing in deprived communities. Resistance levels were raised in young (age < 15), old (age > 60) and male patients, but remained steady between ages 15 and 60, indicating no cumulative individual risk of resistant infection with antibiotic exposure at current prescribing rates for this age group. Potential confounding factors (repeat isolates, sampling bias, non-Escherichia coli coliforms) were investigated, and showed no convincing evidence of any systematic bias that would affect the associations described.
Conclusions: This provides statistical support to the widely held view that community antibiotic prescribing influences resistance rates. However, it places the association at practice population level, indicating that the actions of individual practitioners may affect resistance rates in their own practice. This may be a more compelling argument for changes in prescribing behaviour than presentation of resistance as a public health problem at national level. Other factors such as age, sex and social deprivation also appear to be associated with resistance rates and may offer clues as to the epidemiology of resistance in community coliform UTI.

MoP128 Clinical features and epidemiology of urinary tract infection in female outpatients

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Objectives: To determine clinical features and epidemiology of urinary tract infections (UTI) in female outpatients admitted to the Department of the Internal Medicine.
Method: Between January and December 1999, 64 female outpatients with lower and/or upper urinary symptoms were retrospectively analyzed for clinical findings and associated diseases. Antimicrobial susceptibilities of isolated strains were tested with disk diffusion method as mentioned in NCCLS M2-A4.
Results: The median age of the patients was 59.8 (14–80). UTI was noted in 40% of the patients for the first occurence and in rest of them twice or more. Flank pain (64%) was the most common symptom in these patients followed by fever (> 38°C) in only 54% of the patients. Essential hypertension was the most common associated disease. *Escherichia coli* (78.2%), *Enterobacter* spp (6.3%), methicillin-sensitive *Staphylococcus aureus* (6.3%), *Klebsiella pneumoniae* (4.6%), *Proteus mirabilis* (4.6%) were isolated in urine cultures. The susceptibilities of isolated strains were as follows: ampicillin 51%, ampicillin/sulbactam 75%, cefazolin 70%, cefuroxime 75%, cefoxitin 80%, ceftriaxone 86%, cefoperazone/sulbactam and cefepime 90%, imipenem and meropenem 100%, gentamicin and tobramycin 70%, netilmicin 90%, amikacin 95%, cotrimoxazole 78%, nitrofurantoin 85%, ciprofloxacin and ofloxacin 82%. 54% of the patients had acute uncomplicated pyelonephritis and remaining 46% had acute uncomplicated bacterial cystitis.
Conclusions: Increased rate of antimicrobial resistance to parenteral antibiotics in Gram-negative bacteria was remarkable. Nitrofurantoin can be used as an oral choice in empirical therapy of acute uncomplicated bacterial cystitis.

MoP129 Epidemiologycal and clinical aspects of endocarditis by *Neisseria mucosa:* A review of 22 patients

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Objectives: We analyse the epidemiologycal and clinical spectrum of the endocarditis by *Neisseria mucosa.*, an unusal pathogen.
Methods: We report an own case of EI by *N. mucosa* and a MEDLINE research covering the years 1966 1999. We used the Duke criteria for diagnosing the endocarditis as probable or definite.
Results: Twentyt wo patients were enrolled in the study, with a relationship M/F of 2/1 and a mediam age of 38 years (range: 8–69 years). Thirteen episodes of endocarditis were classified as definite and nine as posible One or several predisposing factors were identified in two thirds of the patients. A previous known heart disease was found in 55% of patients. The median duration of clinical sypmtoms until the diagnosis was made was 16 days. The mitral valve was the most affected (59%), followed by the aortic valve (29%). Eigthy six percent (86%) of episodes involved native valves. Complications were observed in 64% (14/22) of the cases: 79% (11/14) were major embolic events. Overall mortality was of 22%. The Penicillin sensibility of N. mucosa has remained stable through the last three decades.
Conclusions: Endocarditis by *N. mucosa* is observed in young people without previous heart disease, subacute presentation and with frecuent predisposing factors. It is has a great systemic embolic capacity, but not more mortality. The sensibility to Penicillin has remained stable in the last 30 years.

MoP130 Mother-to-child transmission of *Burkholderia pseudomallei*

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A 31-year-old gravida 3 para 1 Dutch woman with a 2-year history of ulcerative colitis was hospitalized with a severe bleeding placenta at 32 weeks of gestation. An emergency caesarian section was performed. A girl (1850 g) was born with Apgar scores of 2, 8, and 9 after 1, 5 and 10 min. The girl developed signs of sepsis and respiratory distress on the second day of life. The chest radiograph revealed consolidation in the right lung. She was mechanically ventilated and treated with i.v. amoxycillin and gentamicin. She deteriorated on the fifth day of life. A blood culture from the second day and a tracheal aspirate yielded *Burkholderia pseudomallei*. A diagnosis of neonatal melioidosis was made.

Repeated chest radiographs revealed bilateral abscess formation. The child received ceftazidime for 8 weeks, followed by oral amoxycillin-clavulanic acid for 6 weeks. She gradually recovered. The mother had been on holidays in Thailand during her pregnancy. Two weeks postpartum, cultures of throat, faeces, rectum, urine, and cervix were obtained from the mother. The cervix culture grew *B. pseudomallei*. Analysis of maternal and child's isolates by pulsed-field gel electrophoresis indicated a single strain. Serology for anti-*B. pseudomallei* antibodies in the mother was positive. Histologic review of the placenta revealed micro-abscesses.
Conclusions: We present the first documented mother-to-child transmission of *B. pseudomallei*. Trans-placental transmission probably occurred as a result of infection of the placenta.

MoP131 Antimicrobial resistance in Salmonella spp-

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Objectives: The aim of the study was to investigate the frequency of antimicrobial resistance in Salmonella spp. isolated from stool specimen of 5010 patients along with clinical and epidemiological characteristics of the host.
Methods: Patients, with acute gastroenteritis, were hospitalized in University Hospital For Infectious Diseases "Dr. F. Mihaljevic", in Zagreb over 8 years (1990–1997). In all patients Salmonella spp. was isolated from stool sample. Univariate analyses (x^2, and Fisher exact test) was used to screen for factors associated with multiresistance. Factor found to have P value of <0.05 were then further examinated in multivariate model - logistic regression analysis.
Results: The frequency of antimicrobial resistance in S. typhimurium to ampicillin, chloramphenicol, trimetoprim-sulfamethoxazole was 35.34%, 15.45%, 3.63% respect. In stool specimen from only two of all patients, we have found resistance to ciprofloxacin. Both patients had been infected with S. hadar. Multiresistant strains of Salmonella spp. isolated from 109 patients-2.1% of 5010 patients evaluated, were each significantly associated with four variables in univariate analyses: serotype typhimurium, age < 3 years ($P < 0.0001$), host exposure to penicillin, trimethoprim-sufamethoxazole within four weeks before stool culture ($P < 0.0001$). The incidence of multiresistant strains increased from 0.18% in 1991 to 10.46% in 1997.
Conclusions: A significant increased of multiresistant Salmonella spp. infections was observed among patients hospitalizied during 1996 and 1997 (after the war in Croatia). Recognized risk factors for multiple resistance iz: age < 3 years, antimicrobial exposure, serotype S. typhimurium.

MoP132 Resistant phenotypes to b-lactam antibiotics of *Escerichia coli* in two dierent parts of Greece (rural and industrial)

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Objective: To determine the prevalence of resistant phenotypes of *Escherichia coli* strains to b-lactam antibiotics isolated from outpatients with urinary tract infections in two different parts of Greece, the rural area of Thessaly, which is located in Central Greece and the industrial area of Athens.
Methods: The identification of isolates to species level was performed with the API 20E System (API bioMerieux). The agar disk diffusion method for the selection of phenotypes was interpreted following the guidelines of the National Committee for Clinical Laboratory Standards.
Results: One hundred and twenty *E. coli* strains from eight Microbiological Laboratories of Thessaly showed the following phenotypes. 66.3% were sensitive to all b-lactams tested, 9.4% were resistant only to ampicillin-ticarcillin (low level penicillinase) 22.4% were resistant to ampicillin-ticarcillin-piperacillin-cephalothin (high level penicillinase). The corresponding phenotypes in area of Athens (two Microbiological Laboratories) was 55.8%, 9.3% and 32.5% Moreover, two different phenotypes were identified in two areas. One in Thessaly, where 1.7% of strains were resistant to cephalothin-cefamandole (low level cephalosporinase) and the other in

Athens, where 2.32% of strains were resistant to ampicillin-ticarcillin-piperacillin-cephalothin-ceftazidime-cefotaxime (extended spectrum β-lactamase).
Conclusions: Although there no major differences in the types of resistant phenotypes in both areas, it is obvious that in area of Athens the percentage of resistant strains to b-lactam antibiotics is higher. This observation and the presence of the multiresistant phenotype, due probably to the production of extended spectrum b-lactamases, reflects the over use of these antibiotics in the area of Athens.

MoP133 Clinical and laboratory aspects of childhood shigeliosis

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Objectives: To evaluate the epidemiology and clinical presentation of shigellosis and to analyze the distribution and the antibiotic resistance pattern of *Shigella sp.*
Methods: Epidemiological, clinical and laboratory data were retrospectively i analyzed in 39 cases referred to "Thriassio" General Hospital over a 2 years period (1997–1999). All the isolates were identified, serogrouped and serotyped using conventional methods. Minimum Inhibitory Concentrations (MICs) of several antibiotics against clinical isolates were determined by using Sensititre fluorogenic-substrate system.
Results: The incidence of shigellosis was highest during the trimester August to October, for children 1–5 years old but equal for both sexes. Two children were less than six months old. Spread within families was found in two cases. The most common symptoms recorded were:hyperpyrexia, abdominal cramps, vomiting mucoid bloody diarrhea and dehydration. In two children convulsions were present, in one septicaemia while another one developed pneumonia *S. flexneri* was the most common serogroup isolated (84.6%) with serotype 2 being the commonest (52.1%). *S. sonnei* accounted for (15.4%) with serotype 2 being the commonest (90.0%). All strains were susceptible to aminoglycosides, 2nd and 3rd generation cephalosporins, aztreonam and quinolones. 61.9% of the strains were resistant to ampicillin (MIC50, 90 > 32 μg/ml), 39% to co-trimoxazol (MIC50, 90 > 4/76) while 60% of the strains were resistant to both drugs. The commonest resistance pattern was ampicillin/co-trimoxazole/chloramphenicol/tetracyclin.
Conclusions: 1. *S. flexeneri* biotype 2 was the predominant isolate 2. Resistance trends regarding ampicillin and co-trimoxazole, both being the drugs of choice, mandate the consideration of other therapeutic options. 3. Prevention of disease by reduction of transmission through improved hygienic conditions will remain the mayor statege for reducing the incidence of childhood shigellosis.

MoP134 Extraintestinal salmonelosis

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Objective: To explore the profile and frequency of non-typhoid extra-intestinal salmoneloses in the regional General Hospital Uzice.
Methods: We retrospectively surveyed (1972–1999) microbiology records of 76 patients, with primary non-typhoid *Salmonella* infections who didn't have AIDS. Our strains were obtained from blood, cerebro-spinal fluid, bums, wounds and sputa. We compared the number of these isolates with total number of *Salmonella* isolates.
Results: Although we found 26 serotypes of all *Salmonella* isolates, only 7 serotypes were recovered from non-faecal and non-urinal material. *Salmonella wien* was the most prevalent isolate (62.5%), then *Salmonella enteritidis* (13.9%) and *Salmonella abony* (12.5%). In our hospital, the average number of *Salmonella* isolates per year remains constant (109), but the number of extraintestinal isolates decreases, so in the last 10 years their total number was 5 and *Salmonella enteritidis* is prevailing (4 isolates). Children and neonates were 38.1% of studied populaton.
Conclusions: Our findings strongly support the fact that *Salmonella wien* is known to have a propensity for causing extra-intestinal infections. But, nowadays it's rare in faecal and non-faecal isolates and *Salmonella enteritidis* prevails. Since *Salmonella enteritidis* is moderately invasive serovar, the total number of extraintestinal isolates is decreasing.

MoP135 Dierent PCR-based fingerprints exhibit significantly higher intra-serotype genetic similarity for *Proteus mirabilis* strains

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Objectives: *P. mirabilis* is known etiologic factor for numerous urinary tract diseases. Few PCR-based differentiation methods of *Proteus* strains have been already evaluated. Some of them allow distinguishing species of the genus.
Methods: PCR fingerprint differentiation based on repetitive and microsatelite sequences
Results: Four different PCR tests were applied for investigation of 38 *P. mirabilis* inter-strain diversity. Two of them were based on repetitive sequence family members (ERIC, BOXA1R), further on microsatellites (GACA)4, (GTG)5. Out of investigated *P. mirabilis* strains 15 were representing different serotypes. The 23 of them were representing few common serotypes: O3 (6 strains), O10, O24 (3 strains each), O5, O7, O13, O14, O23 (2 strains each). After computer analysis of obtained PCR fingerprints most of them (O3, O7, O10, O23 and O24 serotype representatives), independently on the mathematical method applied, were most often clustered together. The similar strain gathering repeated in four independent tests aimed at non-related target sequences each, suggests rather well stabilised *P. miabilis* genome structure. Therefore observed inter-strain differences are expected to be conservative. Hence, also more detailed and strain-sensitive differentiation should be more conservative and less dependent on selected primer type.
Conclusion: In particular, we suggest that in at least some cases, *P. mirabilis* serotypes, might be differentiated on the basis of greater number of different sequence types non-related directly to *P. mirabilis* antigenic properties.

P:4/3 – Other bacterial infections - I

TuP35 Etiology of nosocomial infections in post operated wounds and antibiotic resistence of their agents

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Objectives: We aimed to describe isolation, identification and antibiotic resistence of microbial nosocomial infections in post-operated wounds.
Methods: During August 1997– November 1998. 617 post-operated infected wounds of patients in surgical wards of University Center "Mother TEREZA" of Tirana, have been examinated in our laboratory. Materials were taken with sterile cotton swab (dry or wet in bujon) and were cultured in Petri dishes with blood agar and Endo media. Identification of different microbial agents such as *Staph. aureus, Staph. epidermidis, Pseudomonas aeruginosa* etc. has been based in the morfological characteristics of their colonies in culture media, microscopic examination and biochemical features. Antibiotic resistance has been performed with the method of disc diffusion.
Results: We isolated 201 different microbial strains from 617 post-operated infected wounds. Among them there were: *Escherichia coli* 52 cases (25.87%), *Pseudomonas aeruginosa* 26 cases (12.93%), *Proteus* spp. (10.44%), *Klebsiella* 10 cases (4.97%), *Enterobacter* spp 8 cases (3.98%), *Citrobacter* spp 5 cases (2.48%), *Staph. epidermidis* 43 cases (21.39%), *Staph. aureus* 36 cases (17.91%). Many of our strains were resistent to Amoxicylline, Ampicylline, Cefalexine, Gentamycine, Augmentine, Cloramphenicol, etc. We would like underline that a multiple resistence has been verified to a number of microbial agents like *E. coli, Proteus spp. Staph. epidermidis, Staph. aureus.*
Conclusions: The most important etiologic agents of infection in post-operated wounds have been Gram negative bacteria 60.69%. Three strains more frequent found were *Escherichia coli* 25.87%, *Staph. epidermidis* 21.39%, and *Staph. aureus* 17.91%. Antibiotic resistence was high with a multiple resistence for many of strains.